

IAQ *Tools for Schools*

B U L L E T I N

National Academy of Sciences Report Links Asthma to Indoor Environmental Triggers

On January 19, the National Academy of Sciences (NAS) released a report entitled, *Clearing the Air: Asthma and Indoor Air Exposures*. The U.S. EPA contracted with the National Academy of Sciences to assess the role of indoor air quality and asthma. In the report, NAS characterizes the state of the science on health impacts and prevention strategies, and provides recommendations on needed research.

The Academy's conclusions and recommendations support EPA's initiative to increase awareness of the impact of indoor air pollutants on asthma exacerbation and development, and to increase the use of effective indoor environmental interventions.

For example, the report finds strong, causal evidence linking common indoor substances to the development or worsening of asthma symptoms in susceptible people. The report finds sufficient evidence of a causal relationship or an association between indoor exposures and *exacerbation* of asthma for pet (cat and dog) dander, cockroaches, house dust mites, environmental tobacco smoke, fungi

and molds, rhinovirus (the common cold), and nitrogen oxides.

According to the Centers for Disease Control and Prevention, asthma increased 75% from 1980 to 1994. Approximately 17 million Americans are now diagnosed with asthma, disproportionately affecting children and those of low income.

Over 5 million school-aged children have asthma or one in thirteen children. School personnel can improve the indoor environments in schools by reducing air pollutants which may trigger asthma episodes. The *IAQ Tools for Schools* Kit provides step-by-step guidance on how to reduce exposures to these indoor environmental triggers.

Copies of *Clearing the Air: Asthma and Indoor Air Exposures* is available from the National Academy Press, or read a summary of the report on-line at their web site at: books.nap.edu/catalog/9610.html.

EPA and School Nurses Team Up Against Asthma

The National Association of School Nurses (NASN) and EPA have recently begun working together to improve indoor air quality and to reduce asthma in schools.

NASN currently has over 10,000 school nurse members and 48 state affiliate chapters.

In the past decade, school nurses have expanded their role in school programs. In addition to delivering traditional health care, they are teaching a variety of health topics, providing parent health education, facilitating staff wellness programs, and participating in community health events.

NASN is currently developing asthma training modules to educate school communities on the seriousness of asthma and the environmental triggers which may

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School Nurses continued

increase the frequency and severity of asthma episodes. School nurses will deliver the training modules at staff meetings, PTA meetings and in student health classes.

In June 1999, NASN hosted its 31st Annual National Conference in Providence, Rhode Island. Approximately 195 school nurses attended EPA's session on *IAQ Tools for Schools* and asthma. As a result, many are now using the Kit in their own schools.

For more information on EPA's work with school nurses, contact Kim Smith at (202) 564-9443.

National Education Association Makes Indoor Air Quality A Priority

Submitted by Christine Luong,
National Education Association

At the 1999 National Education Association's (NEA) Annual Meeting, held in Orlando in June, indoor air quality in schools emerged as a critical issue. In response to the growing need for help in addressing IAQ problems in schools, delegates at the Annual Meeting unanimously passed a "new business" item on IAQ. The new business item was adopted as follows:

The NEA urges all state and local affiliates to implement the Indoor Air Quality Tools for Schools Action Kit in their schools starting with the 1999-2000 school year.

The NEA Health Information Network's existing IAQ in Schools program is ready for the challenge of implementing the *Indoor Air Quality Tools for Schools* Kit in as many public schools as possible. The NEA's goal is to help EPA reach its goal of implementing the Kit in 16,000 public schools across the country by 2005.

For additional information about NEA's involvement with *IAQ Tools for Schools*, contact Christine Luong at the Health Information Network of the National Education Association at (202) 822-7799, or via email at cluong@nea.org.

American Lung Association Launches New *IAQ Tools for Schools* Training Program

Submitted by Katherine Pruitt
American Lung Association

The American Lung Association (ALA) has been a major promoter of *IAQ Tools for Schools* since its inception. The only health and environmental organization among the Kit's co-sponsors, ALA has served as a champion for the program in many communities around the country.

Nearly half of Lung Association offices nationwide are involved in activities to improve Indoor Air Quality in schools, and many are currently conducting outreach programs: training school personnel, involving students and their parents, and working with coalitions and decision makers.



In part because of the success of the program to date, the ALA Board of Directors voted in February 1999 to adopt *IAQ Tools for Schools* as a core program for the organization, making it one of a handful of programs that all local Lung Associations are expected to deliver in a consistent way.

To help local Lung Associations develop effective promotional programs for *IAQ Tools for Schools*, the Indoor Air Programs staff at the ALA national office has launched a year-long series of regional trainings. The one-day workshops are designed to give ALA staff and volunteers the background and skills they need to train school personnel and other community stakeholders to implement the guidance in *IAQ Tools for Schools*.

Sessions include an overview of indoor air quality issues in schools; ideas for marketing the program to schools and other community stakeholders; strategies for training different audiences to implement the program in the schools; developing partnerships; and measuring program outcomes.

The first training was held in San Jose, California in August, 1999. Seventeen staff and volunteers from 14 Lung Associations in California and Washington participated, bringing with them considerable expertise in lung health, indoor air quality, communications, development and strategic planning.

Shelly Rosenblum from EPA Region 9 served as one of the trainers, and was able to give participants some technical background for the program, along

with the promise of guidance and support for their efforts when they got back home to their local associations. One of the highlights of the day was hearing presentations from teachers Adina Neal and Ruth Sweet. Ms. Neal, who is serving as the IAQ Coordinator for the Saugus school district, shared her difficult but ultimately rewarding experiences with an IAQ crisis situation. Ms Sweet talked about the benefits of working through the students to bring IAQ to the attention of the school population, as she did very successfully with a program she and her third graders call "Crabby Cathy."

The second workshop was held in Detroit, Michigan at the end of September 1999, with thirteen participants from across the midwestern states. Sheila Batka and Helen Tsiapas from EPA Region 5 served as co-presenters. Several of the participants who have been most involved with *IAQ Tools for Schools* also shared their experiences in informal presentations. One of the highlights from this training was hearing how local Lung Associations in Ohio have been able to leverage their efforts to a higher level of success by working through the very active State Indoor Air Coalition.

ALA expects to hold two more regional *IAQ Tools for Schools* trainings this winter and spring, reaching at least another 20 local Lung Association offices. Each participating Lung Association is asked, as part of the training, to make a commitment to taking some action to promote *IAQ Tools for Schools* this year. Individuals and organizations working on IAQ

Tools for Schools outreach are encouraged to contact their local Lung Association as a potential community partner at 1-800-LUNG-USA.

Regional Training News

Low Cost/No Cost Training: An EPA Regional Perspective

Submitted by Sheila Batka
EPA, Region 5

Recently, EPA's Region 5 held an Indoor Air Quality, "Train-the-Trainers" workshop, organized by the American Lung Association (ALA) of Metropolitan Chicago for its Americorps/Chicago Health Corps staff.

The training was small (about twelve participants) and informal, making it easier to address participants' needs. Because the participants had backgrounds in health-related disciplines, they were already familiar with indoor air quality issues, so not as much time was spent discussing IAQ background information. Instead, the training focused on using *IAQ Tools for Schools*, including: doing classroom activities that utilized the checklists and problem-solving wheel for mock IAQ incidents in schools; explaining the principles of integrated pest management (IPM); and learning to use basic air monitoring equipment in a building walk-through.

The training included a variety of resources such as slides and photographs of IAQ problems, overheads explaining the process of implementing *IAQ Tools for Schools*, technical reference material and walkthrough ideas, audience notes of overheads, and activity sheets of mock IAQ school incidences. EPA's Region 5 also provided a list of resources that was co-developed by EPA and other IAQ and school experts in

the Region. This resource list included *Resources for Schools*, *Tips for Schools*, and *Resources for Homeowners*. EPA Regional IAQ staff may be able to provide you with resources to further enhance your own *IAQ Tools for Schools* training.

Region 5 frequently works with non-profit partners, such as ALA to provide course participants with specific information enabling them to be knowledgeable about IAQ and to implement *IAQ Tools for Schools* in their communities. The benefits of small, focused training workshops, like the EPA/ALA training, is that information can be fine tuned to meet the specific needs of the class. Some IAQ training courses are professionally organized with national experts on IAQ and offer continuing education credits. Other courses are available that have been put together on a shoestring budget.

The following information was developed by Region 5 to assist you and your organization as you prepare to sponsor an *IAQ Tools for Schools* workshop in your area.

Where do you get speakers/presenters?

All ten Regional offices of EPA have experienced indoor air staff who actively train school personnel and local partners about IAQ in schools. They may be able to assist in the training or provide suggestions for other speakers in your area.

Some speakers may be able to provide *gratis* training, especially if they are collaborating with EPA or its partners. Make sure that your speaker's expertise relates to your audience's needs. Teachers and parents may need general IAQ background information and an introduction to *IAQ Tools for Schools*, whereas school facility or health personnel may need a different level of expertise.

Sources of potential speakers may be found through the following organizations: local affiliates of EPA's national partners, such as the American Lung Association chapters, National Education Association, American School Board Officials, or the National Parent/Teachers Association.

Speakers may also be available through local or state health, environmental or education agencies; local or state IAQ offices; asthma or school coalition members; and university/training center instructors involved in IAQ work.

Regional Training News

How do you determine the size of a training and find a location?

Depending on the size of a proposed training, local partners may be able to provide free space in their offices or obtain space in a public building. Smaller trainings may be held in a school during off-hours, where it might be possible to do a building walk-through. With larger audiences, a typical auditorium setting will be appropriate.

Smaller groups (less than 35) may benefit if the training is set up to include more individualized, roundtable discussions. Informal discussions between the instructor and class participants can occur with a smaller group, allowing the instructor to gauge the audience's knowledge and spend more time on specific issues of interest.

What resources are needed for IAQ Tool for Schools training?

IAQ Tools for Schools Kits - You may wish to ask participants to bring their own Kits if they already have them, or charge a nominal fee to order the Kits yourself. Trainers may be able to provide free Kits, if they have ordered them from EPA in advance, but they may require certain criteria to be met. Otherwise, all of the printed material (except for the IAQ Problem-Solving Wheel and videos) is found on EPA's web site.

IAQ Tools for Schools Presentation materials -The *IAQ Tools for Schools* Training Modules (see page 13) are available on CD-ROM. They contain overhead slides for training school staff and a *Train-the-Trainers* module. In addition, Regional offices and state/local partners may have developed overheads on risk communication, technical issues, school walk-throughs and implementation ideas. As an additional resource, trainers/presenters should provide copies of overheads to participants so they may take notes on each slide.

Local Resources Lists - Some of the Regional offices, partners and state and local agencies have compiled resources in your area/Region that supplement the information provided within the *IAQ Tools for Schools* Coordinator's Guide. Suggestions on other environmental issues that affect schools, or contact names, numbers and web sites of state and local agencies and local partners are always helpful for the participants.

Participants - Allow time within training for networking, either through extended breaks or activities which require participants to interact with each other. Small group activities, where participants use the checklists and problem-solving wheel for a mock IAQ incident, allow the participants to learn from each other, as well as keep the training interesting.

Many resources are available to assist you as you organize *IAQ Tools for Schools* training events. Contact your Regional office for more information. To locate the EPA Regional office in your area, see the map on page 14 or visit the EPA Home Page at: www.epa.gov/epahome/locate2.htm. Click on **Regions**.

Please let us know how your event works out. Email Paula Selzer at selzer.paula@epa.gov with your story for this Bulletin.

Training Resources

To order the *IAQ Tools for Schools* training module on CD-ROM, see the information on page 13. To find a Partner in your community, contact your EPA regional office.

More Training News

EPA Trains School Personnel to Address Presidential Initiative

In response to a call by President Clinton, EPA recently undertook an Urban Schools Initiative. This demonstration project improved the indoor air quality in a Washington, D.C. public school.

Checklists (i.e. building maintenance, ventilation, teachers) published in the *IAQ Tools for Schools* Kit, served as a starting point in identifying IAQ problems in the school. Using the checklists, staff collected information during a school walk-through and developed an action plan to address priority needs. Ultimately, considerable capital and improvements were made in the school as a result of the action plan.

The total project cost was about \$3 million dollars, split between the

D.C. Public Schools and EPA. The majority of the cost incurred was associated with deferred-maintenance items, such as the HVAC system and damage caused by excess moisture. Over \$1 million dollars of the cost went to repair damages attributable to poor maintenance of the ventilation system. (An EPA economic analysis of the repairs performed showed that if \$370 per year over 22 years (a total of \$8,140) had been spent on preventive maintenance, \$1.5 million in repairs could have been avoided.)



D.C. School personnel register and receive Kits

As a result of the renovation, school facilities personnel have developed and are implementing a preventive maintenance program to reduce future costs associated with IAQ problems at the school. The building is now in much better condition. The principal, Dr. Johnetta Smith, stated, "...When the children returned to school, they were in awe. Excited, happy, and pleased to see a whole new school. The kids have a lot of pride in the school."

In an effort to promote better air quality in schools, the District of Columbia Public Schools, EPA, and Environmental Health and Engineering, Inc. teamed up to



School personnel and EPA staff discuss *IAQ Tools for Schools*

train over 200 D.C. Public School employees and officials on indoor air quality. In July of 1999, two training sessions were conducted at the elementary school. All of the participants received *IAQ Tools for Schools Action Kits* and heard presentations on school air quality, ventilation, and the improvements made in the school.

As a follow-up to the training, Cheryl Eason and Keith Keemer from the District of Columbia's Radon Office will assist a number of D.C. public schools as they implement the pilot program using *IAQ Tools for Schools Action Kit*. It is hoped that the Charles Young demonstration project will provide valuable information not only for the DC Public Schools, but for other schools nationwide.

For more information on the D.C. Schools pilot program contact Ms. Eason or Mr. Keemer at (202) 442-8993.



Gene Kilby, Director of Facilities and Maintenance Staff, DCPS addresses training participants

More Training News

EPA and Partners Continue the Training Tradition

EPA continues to partner with national non-profit organizations to train school personnel to use the *IAQ Tools for Schools* Kit.

In the fall of 1999, EPA teamed with the American Association of School Administrators, the National Association of School Nurses, the National Education Association, the National Association of County Officials, the American Association of School Administrators, and the American Lung Association in separate training events. These workshops were designed to train their members to develop plans for using the Kit in their own communities.

Although the Kit was designed to be implemented without any formal training, the workshops provide a forum for increasing IAQ awareness, an opportunity for action planning and networking, and a chance to hear success stories about schools across the country who are successfully using the Kit. Many of the workshops also featured a school walk-through aimed at giving participants an opportunity to visit a school and become familiar with the process of doing a checklist, the first step in developing an IAQ management plan.

Feedback from *IAQ Tools for Schools* trainings is always positive, but there is still room for improvement. EPA is now planning to expand and combine these workshops in a more holistic approach. By including administrators, school board members,

teachers, nurses, and facilities staff in the same workshop, *IAQ Tools for Schools* training may be even more effective.

To find out about upcoming training opportunities in your area, visit the *IAQ Tools for Schools* web site at: www.epa.gov/iaq/schools/html. If you are sponsoring an upcoming training, or know of one in your area, and would like it announced on the web site, contact Kim Smith at (202) 564-9443.

***IAQ Tools for Schools* Incentives Program**

EPA is expanding its efforts to create healthier indoor environments for children in our nations schools by launching an incentives program to spur the use of the *IAQ Tools for Schools* in school districts across the country.

EPA has developed a six-component marketing, technical support, and awards program to make it easier and more rewarding for schools to improve their indoor air quality through the use of *IAQ Tools for Schools*. The program was developed based on feedback obtained in focus groups, a national stakeholders' meeting held in April 1999, and from anecdotal information collected at various *IAQ Tools for Schools* training workshops. The six components are described below:

An Outreach Campaign will focus on the importance of good IAQ in schools and its connection to student performance.

A Recruitment Campaign will identify and distribute *IAQ Tools for Schools* to schools and school districts most likely to read and/or use the Kit.

A Mentoring Program will provide an open line of communication among front-line school personnel, to network and share experiences and successes.

Technical Tools will provide innovative materials to support the use of the Kit to achieve good indoor air programs in schools.

An Awards and Recognition Program will publicly recognize leaders promoting school environmental issues.

Private Sector Partnering will facilitate the partnership of schools with corporations and businesses who wish to display their environmental and civic leadership by providing technical assistance to schools and school systems who are implementing the Kit.

This summer, EPA will launch the incentives program nationwide. See page 13 for details about the upcoming National Symposium in July, 2000.

IAQ Curricula and Learning Tools

The following resources are curricula and learning tools associated with IAQ or IAQ Tools for Schools

Air Smart Interactive CD-Rom

Takes a learner through all aspects of indoor air quality in a building using an interactive, investigative format. Available from the University of Minnesota Midwest Universities Radon Consortium. Order from UMN web site: www.extension.umn.edu. Search for "airsmart" and then click on link to order. Price for one copy is \$100.00; the price drops for multiple copies.

Hydroville, USA: Challenge Problems for High School Students (*Packet 3, Challenge Problem IV, An Indoor Air Quality Case Simulation*)

For High School age children. Using scientific principles of inquiry, students learn about physical science, life science and earth and space science through a case study about a newly renovated middle school that seems to be having indoor air quality problems. Available from "Science and Math Investigative Learning Experiences" (SMILE) at Oregon State University. The cost is \$20.00. Call (541) 737-2388 to order.

ToxRAP: Toxicology, Risk Assessment and Pollution

Students become health hazard detectives to cooperatively investigate environmental health hazards and their impact on human health using a risk assessment framework. Using air pollution as an example, students learn to recognize the hazards for air contaminants in their environments, evaluate the potential health risks of these contaminants, and, when necessary, control hazards to reduce risks. K-3 module focuses on natural air contaminants, (\$75). Grades 3-6 examine natural and human-made air contaminants, (\$80). Grades 6-9 use lead as a case study, (\$75). Contact Laura Hemminger at the Environmental and Occupational Health Sciences Institute in Piscataway, New Jersey (732) 445-0110. Visit their web site at: www.eohsi.rutgers.edu/rc for more information.

Indoor Air Quality Tools for Schools Curriculum

Grades K-3. Supplements the principles and materials in the *IAQ Tools for Schools* Action Kit. Free. Offered by EPA's Region 1 (Boston, MA). For more information, contact Eugene Benoit at (617) 918-1639 or benoit.eugene@epa.gov. Curriculum can be downloaded from Region 1's web site at: www.epa.gov/region01/eco/iaq.

Teacher's Guide to Indoor Air Pollutants, National Safety Council

Grades 4-6. This attractively printed guide is designed to help students increase their knowledge of indoor air quality (IAQ) problems and solutions. Offered by the National Safety Council's Environmental Health Center. Contact their Helpline at (800) 557-2366 to order a copy. The cost is \$25.00. (Limited availability).

Radon and Indoor Air Quality School Resource CD

Developed by the Cuyahoga County, Ohio Board of Health. Meant to be a tool for junior high teachers to develop IAQ curriculum for their students as part of the scientific method. The format is *Adobe Acrobat Reader*. The disk includes a variety of materials on both radon and indoor air and sample lesson plans in those areas. Contact Terrence Allan at (216) 443-7500.

Healthy School Environment Curriculum

Developed by the Cohasset, MA Middle/High School, this curriculum draws on *IAQ Tools for Schools* to teach about science and the indoor environment. The curriculum has lesson plans, vocabulary sheets, activities, and lots of web resource links. It can be downloaded for free from: www.ssec.org/cohasset. Choose LsnplnWC.

NESCAUM's Air Currents Project

Air CURRENTS is a curriculum using science and math principles to teach environmental education through indoor air and outdoor air projects. Very good resources listed, as well as lesson plans, tips for teachers, etc. Grades 6 - 12. The cost \$20.00. Contact the Northeast States for Coordinated Air Use Management (NESCAUM) at (617) 367-8540.

News From A round the Country

New Book from Architect's Group Examines State of School Buildings

The American Institute of Architects (AIA) released a new booklet this fall on the state of the nation's school buildings. The booklet, *Good Enough for Congress? A Pictorial Representation of Why Americans Deserve Better School Buildings*, challenges Congress to focus its attention on the dire need for school construction and modernization.

The booklet contains photographs of the former high school buildings of various members of the House Ways and Means and Senate Finance Committees. It includes photographs, statistics, and facts about each school and other education facilities in each member's respective state and encourages members of Congress to take immediate action to provide a quality learning environment for our nation's children.

The AIA believes the United States must upgrade and modernize its education facilities to equip America's students with the necessary resources to meet the global challenges of the 21st century.

The U.S. General Accounting Office reports that one-third of the country's public schools, which house more than 15 million children, are in need of "extensive repair or replacement." The average public school is 42 years old, and with record enrollments of 53.2 million children this year, enrollment is expected to continue to climb.

Several legislative proposals, including H.R. 1660, *Public School Modernization Act of 1999*, introduced by Rep. Charles Rangel (D-N.Y.); H.R. 1760, *America's Better Classrooms Act of 1999*, introduced by Rep. Nancy Johnson (R-Conn.); and S. 1454, *Public School Modernization and Overcrowding Relief Act of 1999*, introduced by Sen. Charles Robb (D-Va.), would boost the incentive for school construction by providing tax credits, generating an estimated \$25 billion in school construction activity.

These bills can be viewed by searching the Thomas Legislative Information web site from the Library of Congress. The web site is <http://thomas.loc.gov/>. A copy of the booklet can be viewed on the AIA web site at: www.e-architect.com/gov/schoolpics/home2.asp.



Our Web Site Has A New Look

www.epa.gov/iaq/schools/

If you have visited the *IAQ Tools for Schools* web site lately, you may have noticed that we have a new look. The site has been redesigned and the information and content substantially increased.

In addition to updating and revising some of the existing information on the site, we have added information on the *IAQ Tools for Schools* Incentives Program and an outline of the *Tools for New Schools* initiative. A *What's New* Page features this Bulletin, and previous copies of the *IAQ Tools for Schools* Bulletin, in PDF format. We will soon have the recently published *IAQ Tools for Schools Actions to Improve Indoor Air Quality* on the site in PDF and HTML formats, so visit frequently.

We encourage you to take a look at the revised site and provide us with comments. Please send any comments or suggestions directly to the webmaster at: long.james@epa.gov.

Asthma is a growing problem in our nation's schools. Many asthma episodes are associated with environmental triggers caused by poor indoor air quality. The following articles are meant to help parents and teachers become more aware of the problems associated with asthma in schools.

Does Your Child's School Trigger Allergies?

Submitted by Colleen Horn
Asthma and Allergy Foundation of America

You can work hard to minimize the allergens to which your child is exposed at home, but you have much less control over his/her school setting. Still, if your child is experiencing allergic reactions at school, you should visit the school and classroom, look for potential problems and ask the principal and teachers to cooperate by making the educational environment as allergen-free and irritant-free as possible. As you review the list below, place a check mark beside those steps that may be appropriate at your child's school.

- Remove pets (for example, guinea pigs, gerbils, mice) from the classroom.
- Avoid keeping piles of newspapers in the classroom since they may attract mold.
- Check books and bookshelves frequently for mold growth, and to prevent dust accumulation.
- Keep room closets free of dust-accumulating items, old clothes and moisture sources.

- Avoid conducting physical education or other activities in open areas or fields during high pollen and mold count days.
- Remove plants from classroom.
- Provide pillows with allergen-proof casings for preschoolers who take naps at school.
- Provide adequate fresh air through ventilation in the classroom; ask that trees, shrubs and flowers be trimmed back from classroom windows.
- If food allergies are present, educate staff and children. Have an emergency plan and make sure it is understood by everyone. Keep a supply of allergy-free treats at school for unexpected celebrations.
- Prohibit smoking on school premises (indoors and outdoors).
- Vacuuming and cleaning with chemical solutions should be done after school hours.
- Areas where chemicals are used should be aired out.
- Check that the school is well-ventilated and that these ventilation systems and filters are cleaned or replaced regularly.

Managing Asthma in School

The teachers and other staff at your child's school need to know how to handle both everyday situations and emergencies related to your child's asthma. Share with them the following information, provided by the Asthma and Allergy Foundation of America.

What To Look For:

- Anxious look
- Stooped body posture
- Perspiring
- Rapid respirations (greater than 25-30 per minute at rest)
- Painful breathing
- Retractions (a concave appearance of the chest as the child struggles to breathe)
- Nasal flaring
- Nausea/vomiting
- Fatigue
- Decreased peak flow value (if a peak flow meter is used at school to monitor your child's status)

What's the Relationship between Schools and Asthma?

Because an estimated 5 million children under 18 years of age have asthma, and it is the leading cause of absenteeism due to a chronic condition, asthma is a serious public health issue in schools. Children spend up to eight hours a day in the school building; thus a healthy indoor environment is crucial in the management of asthma. By implementing the *IAQ Tools for Schools Kit*, schools can improve indoor air quality for all students, and most especially for those with asthma, by reducing their exposure to pollutants that may trigger asthma.

Information About Asthma

What To Listen For:

- Complaints of chest tightness
- Persistent coughing
- Irregular breathing
- Abnormal sounds (decreased or absent breathing sounds; wheezing; rattling sounds while breathing)
- Prolonged expiration

What To Do For An Asthma Crisis At School:

- Review the student's current medication and emergency medications and asthma management plan.
- Have the student sit upright and check his breathing with a peak flow meter if possible.
- Administer prescribed medication by inhaler. (Medication should be inhaled slowly and fully.)
- Administer medication by nebulizer if prescribed.
- Reassure the student and attempt to keep him/her calm and breathing slowly and deeply.
- Student should respond to treatment within 15-20 minutes.
- Recheck with a peak flow meter.
- If there is no change, or if the student's breathing becomes worse, contact the parent immediately and call for emergency help.

Seek Medical Emergency Care If The Student Has Any Of The Following:

- Coughs constantly
- Is unable to speak in complete sentences without taking a breath

- Has lips, nails and mucous membranes that are gray or blue
- Demonstrates severe retractions and/or nasal flaring
- Is vomiting persistently
- Has 50 percent reduced peak flow reading
- Has a pulse greater than 120 per minute
- Has respirations greater than 30 per minute
- Is severely restless
- Shows no improvement after 15-20 minutes

Can Children With Asthma Participate in Gym Class?

Children with asthma can and should participate in a full range of activities at school, including gym. By following these simple points, you can help ensure your child's success.

- Be sure your child is under a doctor's care.
- Help your child to understand his/her asthma plan and take their medicines as prescribed.
- Make sure the gym teacher understands that your child has asthma and how he/she can be part of your child's asthma management plan.
- Be sure your child uses his/her inhaler right before gym class (and after if needed) to prevent exercise-induced asthma (EIA), especially if the class is held outside during cold weather or pollen season.
- Help your child feel comfortable telling the gym teacher if breathing becomes rapid and difficult. Understanding that the child needs to use an inhaler at this time is important.

- Make sure your child understands that he/she must tell an adult whenever their medication is not working.

With a proper treatment plan, children with asthma should be able to fully participate in gym class and team sports. Contact school personnel, teachers and coaches to let them know about your child's asthma management plan. Ask your doctor to complete a Student Asthma Action Card, available free through the Asthma and Allergy Foundation of America, to help share your child's asthma management plan with the school. Together you can create a winning combination for health.

For more information, contact Colleen Horn at the Asthma and Allergy Foundation of America (202) 466-7643. Or visit their web site at: www.aaafa.org/



What's New with IAQ Tools for Schools

EPA Publishes Two New Brochures

IAQ Tools for Schools Actions to Improve Indoor Air Quality

EPA's Indoor Environments Division recently designed and released a colorful new marketing brochure to promote *IAQ Tools for Schools*. The brochure was designed to market the Kit to K-12 schools and other interested stakeholders.

The marketing brochure provides information on *IAQ Tools for Schools* including unique insert cards with guidance and action items for facility managers, teachers, administrators, and health officers. The brochure offers tips on community sponsorship of IAQ programs in schools and includes a postcard to order the Kit.

The text includes quotations from enthusiastic Kit users and nationally recognized education leaders. National Education Association President Bob Chase states, "NEA members and the children they serve are already benefitting hugely from the *Indoor Air Quality Tools for Schools Kit*. In support of the Kit, delegates at NEA's July 1999 national convention voted to urge all of our state and local affiliates to implement the program in every school."

The brochure measures "9 x 11" when folded, but actually opens to a poster-sized "20 x 24", illustrating key indoor air quality concepts that the IAQ coordinator can post on a door or bulletin board for reference. The key concepts are:

"All schools should implement the IAQ Tools for Schools Kit. It's great to have so many people involved in the health and safety of students."

Jim Stefanik, Director of Facilities, Chicopee County Schools, Chicopee, MA

- Why IAQ is important in schools
- What actions school personnel can take to improve the IAQ in their schools
- Who should use the *IAQ Tools for Schools* checklists.

To order a copy of the brochure, call the IAQ Clearinghouse at (800) 438-4318 or FAX (703) 356-5386.



Managing Asthma in the School Environment

Another brochure is being published as a companion piece to the *IAQ Tools for Schools Kit* the purpose of the publication is to better link indoor air quality to asthma.

IAQ Tools for Schools: Managing Asthma in the School Environment is a full-color, 18-page booklet that focuses on steps that schools can take to help students and staff breathe easier. The brochure is designed to provide:

- General asthma information
- Information on indoor environmental asthma triggers found in schools
- Suggested action items from *IAQ Tools for Schools* to help reduce or eliminate these asthma triggers in the school setting.

The publication also includes an Asthma Action Card designed by the Asthma and Allergy Foundation of America. The card is designed for the families of students with asthma to complete and return to the school nurse or other school official.

Students with asthma are encouraged to identify their asthma triggers on the card, include medical, and emergency contact information. A parent or caregiver and a physician should also sign the card.

The booklet should be available this spring.

What's New with IA Q Tools for Schools

IAQ Tools for Schools **National Symposium**

EPA is sponsoring a National *Indoor Air Quality Tools for Schools* Symposium to be held July 27th - 29th, 2000 in Baltimore, Maryland at the Renaissance Baltimore Harbor Place Hotel. Two to three hundred attendees are expected to participate in this event and will include stakeholders from major school based not-for-profit organizations, health-based organizations, and state, county, and city officials.

This Symposium will highlight sure-fire ways to adopt EPA's

Indoor Air Quality Tools for Schools Program in a school/school district.

The Symposium will host concurrent break-out sessions that will focus on the specific challenges school/school districts face every day while trying to implement a strategic indoor air quality management plan in their schools. The sessions will offer recommendations and provide a forum for school personnel to network with their peers and share successes.

EPA will also launch the *IAQ Tools for Schools* Incentives Program which includes a mentoring program, and will present national awards to schools in recognition of

environmental leadership in the indoor air quality arena.

For more information about the Symposium, contact the national office of the American Association of School Administrations, National Education Association, National Association of School Nurses, American Lung Association, International City/County Management Association, National Association of County/City Health Officials, or the National Association of Counties.

The *IAQ Tools for Schools* Training Modules Are Here!

EPA has developed the *IAQ Tools for Schools* Training Modules to assist with training people to use the *IAQ Tools for Schools* Kit. The modules are now available on CD-ROM. In fact, there are three modules; each one designed to meet the needs of diverse audiences using the Kit.

The **short presentation** is designed for decision makers and general audiences. For example, it might be presented to school boards and administrators who may decide to implement *IAQ Tools for Schools* in schools and districts.

Module 1 is designed to raise audience awareness about the importance of indoor air quality and motivate them to take action. It is a 3-4 hour presentation.

Module 2 is designed to train IAQ Coordinators. It provides more in-depth technical knowledge and skills needed to implement an IAQ program in a school or school district. It is a day-long presentation.

Please call EPA's National Service Center for Environmental Publications at (800) 490-9198 or visit their web site at www.epa.gov/ncepihom/ to order a copy. Requests for multiple copies will be considered on a case-by-case basis.

There are also PDF versions of each of the modules posted on EPA's website at www.epa.gov/iaq.schools.

For additional information about the Training Modules, contact John Guevin at (202) 564-9055 or guevin.john@epa.gov.

Regional Resources

Regional Contact Information

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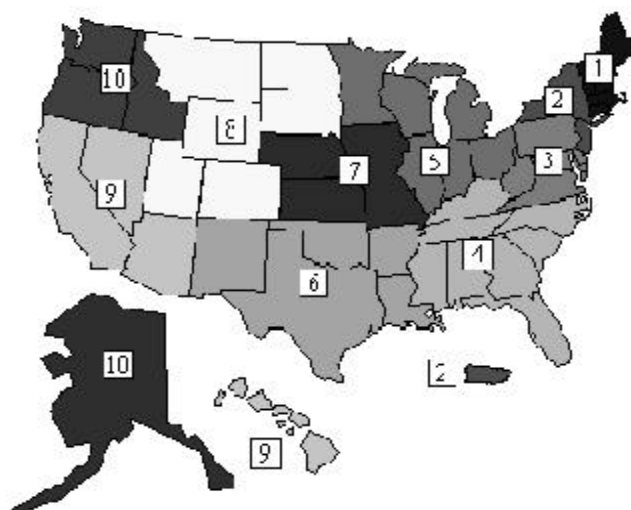
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For more detailed information on EPA's
Regional offices, and links to regional web sites,
go to: www.epa.gov/epahome/locate2.htm

Information Resources

Thank You For Your Contributions!

Thanks to everyone who has contributed articles for this and the previous edition of the *IAQ Tools for Schools Bulletin*. Please keep them coming!

Our main concern is protecting children's health and the environment from harmful indoor air pollutants. We work cooperatively with people who share our concern about health and environmental issues pertaining to indoor air quality.

In future editions of the *IAQ Tools for Schools Bulletin*, we would like to share some of your perspectives on issues, successes, and challenges you have experienced. Whether you use the guidance in EPA's Kit, or another indoor air quality management plan, we would like to hear from you.



While supplies last, school districts, schools, EPA Partners and their affiliates may receive a free copy of the *Indoor Air Quality Tools for Schools* Kit by sending a request on official school letterhead to:

**EPA Kit
PO Box 37133
Washington, D.C. 20013-7133**

Or, by FAXing the request to:

(703) 356-5386

The entire text of the Kit can be downloaded for free from EPA's web site at: www.epa.gov/iaq/schools. Other information on indoor air quality is also available from EPA's web site, through your EPA Regional office, or by calling EPA's Indoor Air Quality Clearing House at: (800) 438-4318.

Contact Information:

Send **Bulletin** submissions to:
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Health Information Network of the National Education Association
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Asthma and Allergy Foundation of American, contact Colleen Horn through their web site at:
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